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EXAMINER	
KOSTAK, VICTOR R	

ART UNIT	PAPER NUMBER
2614	11

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/499,609	Applicant(s) RIDDERHEIM ET AL.	
	Examiner Victor R. Kostak	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *08 June 2004*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The amended Title is considered adequate. (As a reminder and for future reference, applicant is informed that MPEP 606.01, referred to in the last Office action, emphasizes that "*[a more descriptive title] may result in slightly longer titles, but the loss in brevity will be* ***more than*** *offset by the gain in its informative value in indexing, classifying, searching, etc.").*

2. In view of applicant's explanation verifying and clarifying the description of the "*very small aperture terminal",* that rejection as been withdrawn.

3. Claims 1-45 and 63-80 are now objected to because of the following informalities:

a) in line 4 of claim 1, "segment" should follow "media";

b) in line 13 of claim 1, "signals" (both occurrences) should be singular;

c) in line 15 of claim 1, "signals" again should be singular;

d) in line 13 of claim 26, "tire" should be changed to --the--; and

e) in line 7 of claim 63, "arc" should be changed to --are--.

Appropriate correction is required.

4. Applicant's arguments filed on 06/08/04 regarding the rejection of claims 46-80 have been fully considered but they are not persuasive. Applicant argues (specifically regarding both independent claims 46 and 63) that his claims are not met or made obvious by Esch because Esch does not teach inserting cue and action data into a broadcast signal at the central cite for subsequent composite transmission to a remote cite.

Though claims 1 and 26 specifically recite central cite signal processing, independent claims 46 and 63 do not recite nor imply that such processing is done at the central cite. Claims 46 and 63 in fact make no mention of a central cite, but describe a remote cite that carries out various processing.

In view of this, and in view of the fact that Esch does carry out similar processing, as explained in the last Office action, these claims remain rejected. (Applicant is also referred to the Abstract of Esch which discusses in general the insertion of cue signals in a composite broadcast signal which enables switching of the inserted media segment).

Applicant relies on his arguments asserting the independent claims 46 and 63 are allowable to state that the respective dependent claims are allowable, but because the two claims remain rejected, their dependent claims do as well, based on the rejection presented in the last Office action applied again herein, repeated below to consolidate the issues.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 46 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Esch et al.

The system of Esch (noting particularly Figs. 2, 3 and 5) includes a central broadcasting cite 31 (Fig. 1) which combines a media segment (e.g. a commercial) with additional signal including a control signal and various other information signals (col. 1 line 62 – col. 2 line 16), the insertion control being connected to central source broadcast equipment (requisite circuitry

used for the composite signal formation shown in Fig. 3). Respective plural remote stations (e.g. cite 33) receive the composite signal from the central cite and with an insertion control unit (computer 36 in Fig. 2) and upon recognition of the control data and information signals, the composite signals are rebroadcast to user ends as a composite media segment (noting element 109 in Fig. 5 which generates the signal combining). Also included is a cue signal that transfers information about data segments (e.g. col. 2 lines 33-42; element 116 controlled by control processor 109 in Fig. 5).

Although an "action" signal is not specifically recited, Esch inherently triggers an insertion of the media segment (as the media segment is inserted inevitably and eventually at some point in time) according to a prompt dictated by the scheduling processor 71, which one of ordinary skill in the art can reasonably designate as an "action" signal.

Furthermore, although the insertion process of Esch is not called "frame accurate" insertion, one of ordinary skill in the art can also reasonably designate or at least consider the insertion process as involving an acceptable degree of accuracy since the composite signal received by the user must be adequate for viewing and for keeping viewers interested, and since the A/V data is structured as a frame sequence with data inserted in some manner according to the frame structure.

Figs. 3 and 4 show the arrangement of the central cite, and Fig. 5 depicts the remote cite. The central station includes storage for content (elements 63 and 76), control data and logging (schedule) data (elements 72, 50 and 61). A processor 81 is also incorporated for controlling and monitoring the composite A/V signal. The remote cite which receives the composite data from the central cite also includes storage elements for various signal types to be combined with the

original A/V data, and a control processor 109 for managing and monitoring the reassembled modified data for rebroadcasting. Switch 118 links the remote cite to the user stations.

The headend at the central cite also includes external communication with various studio devices (e.g. elements 73-76), each respectively interfacing LAN 51 (data communications unit). The LAN is coupled directly to control processor 78, wherein the various devices can be considered coupled thereto by the intermediate LAN using respective serial interfaces as shown. Network processor 83, modulator 85, and transmitter 84 operate together to generate an encoded composite signal for satellite communication to the remote cite (encoding first mentioned in col. 4 line 66). Cue signals are also included, as noted previously, as well as an action signal, also discussed above.

Addressing claim 46, both the central and remote cites include media players (VTRs 37 and 43 shown in Fig. 2), the remote cite including a composite element 42 (universal platform) which serves as a processor for controlling switching (using matrix switch 44) among broadcast signals and media segments (commercials) being played by the player units, platform 42 further used to control segment insertion according to the control signals (the cue and action signals addressed above).

6. Claims 47-58, 60-74 and 76-80 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Esch et al. in view of Martinez.

Although Esch does not explicitly state that he uses the VBI for control data insertion, he does point out that his system is capable of utilizing broadcast protocols, band-edge, sub-carrier, and the VBI for unspecified purposes (col. 3 lines 4-7).

Martinez explicitly uses the VBI for teletext insertion in his composite A/V broadcasting system (e.g. col. 2 line 64), and one of ordinary skill in the art is well aware that the VBI is typically used for insertion of auxiliary data by virtue of its generous capacity and exclusion to the active video region.

In view of the explicit disclosure of Martinez and the indirect teaching of Esch and the general understanding of the value of the VBI, it would accordingly have been obvious to use the VBI for inserting additional data into the A/V broadcast stream in the communication system of Esch, thereby meeting claims 47 and 63.

As for claims 48 and 64, it would have been obvious for the prompting by the action signal to involve a time reference since the insertion is dictated by scheduling (which is a function of time).

Regarding claims 49 and 65, it would further have been obvious to provide security measures to prevent unauthorized signal interception or monitoring, such as by including a security code (channel ID being inherent since each channel is dealt with individually).

As for claims 50 and 66, it would further have been obvious to inform the headend that the control signal (as well as any additional signal) was properly received, in order to assure that broadcasting (and media insertion) is carried through. Esch in fact includes various communication checks including malfunction checks, integrity checking, accounting and logging (col. 7 lines 40-45).

As for claims 51 and 57, as mentioned above, it would have been obvious to prevent unauthorized signal reception/interception by including any suitable measure therefore. Since encryption/decryption is a very well known way of assuring secure communication, it would

accordingly have been obvious to include an encryption key for deciphering media segments (as well as the A/V broadcast).

Considering claims 52, 53, 68 and 69, the insertion of the media data is triggered by the scheduler using the cue/action signal, wherein the insertion would be based on the specific A/V program content as well as the context of the immediate broadcasting time (commercial insertion typically being based on the type of program and time of broadcast, as corroborated by Esch in col. 3 lines 56-60).

As for claims 54 and 70, it would have been obvious to one of ordinary skill n the art to use viewer profiling to decide what commercials to download, such as by viewer monitoring which would be fed back to the remote cite, thereby maximizing the marketing of the commercial product by catering to the taste of the viewer.

As for claims 55 and 71, the media insertion is determined by the scheduling originating from the central cite.

As for claims 56, 57, 72 and 73, it would have been obvious to be compatible with the teletext format, as taught by Martinez, in order to be able to encode and transmit textual data that would be compatible with known formats (therefore not needing special adapters or reformatting), and transparent to a standard teletext receiver in order to provide separate text data.

As for claims 60 and 76, the spare capacity of the broadcast signal is the VBI, as noted above, suggested by Martinez.

As for claims 58 and 74, Esch includes a cue signal to indicate which media segment to insert into the broadcast signal, which is prompted by what the skilled artisan can call an action signal, which inserts the media signal at a specific time.

As for claim 61, control processor 109 also controls an A/V switch 118 through switch processor 117 for changing over from the received broadcast signal to the insertion (media) signal retrieved from a player (e.g. 104, 106, 107, 108). Although computer interfacing is not explicitly depicted, it would have been obvious to one of ordinary skill in the art that controller communicates with the players and switcher by way of computer-controlled interface. Esch in fact incorporates an interface 110 to controller 109 and to the players and the processors but does not describe element 110 in any detail. Moreover, the broadcast data is received and transmitted to the interface 110, discussed earlier.

As for claim 62, Esch uses the VBI to ensure synchronization for switching (col. 9 lines 9-12).

Regarding claims 77 and 79, it would have been obvious to use the VBI of any given line per respective channels to allow for dedicated processing (and for recognizing channels individually).

As for claim 78, control commands are transferred through LAN 51, as noted earlier.

As for claim 80, schedule slots for media segment insertion are determined by a programming manager, wherein the segments are stored at the remote cite; the central cite organizes and controls the insertion by appending a cue signal into the A/V (TV) signal originating from the central cite; the broadcast television signal with the cue signal is in turn sent to the remote cite, and upon detection of the cue signal, the media segment is inserted into the

television signal according to the scheduled time. The media segment is accordingly presented broadcast consumers, and the TV signal is rebroadcast (since it was first broadcast to the remote cite) to the consumers. Esch also communicates log and performance data to a monitoring center.

7. Claims 59 and 75 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Esch et al. in view of Martinez, in further view of Richer et al.

Regarding claims 20, 39, 59 and 75, it would also have been obvious to apply error minimization or correction measures since data is subject to negative influences as a signal in the transmission stage, and since Esch suggests such by including quality measures by elements 62 and 81, and mentions error correction in col. 7 lines 29-30. It would therefore have been obvious to use any suitable well known quality encoding process, such as by the process taught by Richer, who also communicates between central and remote cites using data in the VBI, and since Hamming codes are well known error correction codes.

8. Claims 1-17, 38, 40-55, 58, 60-71, 74 and 76-80 are now rejected under 35 U.S.C. 103(a) as being unpatentable over Nemirofsky et al.

The system of Nemirofsky (noting particularly Figs. 1-3) includes a central broadcasting cite DC (detailed in Fig. 2) which combines a media segment (e.g. a commercial) with additional signal including a control signal and various other information signals (as shown in Fig. 2), the insertion control being connected to central source broadcast equipment (requisite circuitry used for the composite signal formation shown). Respective plural remote stations (single one shown

in detail in Fig. 3 for subsequent distribution) receive the composite signal from the central cite and with an insertion control unit (noting upstream elements 54, 56, 70) and upon recognition of the control data and information signals, the composite signals are rebroadcast to user ends as a composite media segment (noting element 70). Also included is a cue signal that transfers information about data segments from the central station to the distribution station (e.g. col. 12 lines 20-25, lines 52-63; col. 15 lines 13-24). The distribution site receives the composite broadcast signal with the cue and additional signal components for disassembly using element 56 (col. 8 line 27+).

Although an "action" signal is not specifically recited, Nemirofsky inherently triggers an insertion of the media segment (as the media segment is inserted inevitably and eventually at some point in time) according to a prompt dictated by the scheduling processor 71, which one of ordinary skill in the art can reasonably designate as an "action" signal. Nemirofsky in fact includes a switching command for prompting action (col. 8 lines 45-54).

Furthermore, although the insertion process of Nemirofsky is not called "frame accurate" insertion, one of ordinary skill in the art can also reasonably designate or at least consider the insertion process as involving an acceptable degree of accuracy since the composite signal received by the user must be adequate for viewing and for keeping viewers interested, and since the A/V data is structured as a frame sequence with data inserted in some manner according to the frame structure, thereby meeting claim 1.

As for claim 26, Fig. 2 shows the arrangement of the central cite, and Fig. 3 depicts the remote cite. The central station includes storage for content, control data and logging (schedule) data (noting elements 20, 21-23, 32 and 34; additional scheduling elements shown in Fig. 6). A

processor 26 is also incorporated for controlling and monitoring the composite A/V signal. The remote cite which receives the composite data from the central cite also includes storage elements for various signal types to be combined with the original A/V data, and a control processor 70 for managing and monitoring the reassembled modified data for rebroadcasting. Subsequent switching links the remote cite to the respective user stations.

The headend at the central cite also includes external communication with various studio devices (e.g. elements 20, 22 and 23), and a LAN server b (Fig. 6). The LAN is coupled directly to control system e (Fig. 6), wherein the various devices can be considered coupled thereto by the intermediate LAN using respective serial interfaces as shown. Network processors, modulator 44, and transmitter 46 operate together to generate an encoded composite signal for satellite communication to the remote cite (encoding and first modulation by element 40). Cue signals are also included, as noted previously, as well as an action signal, also discussed above.

As for claim 46, both the central and remote cites include media players (VTRs 32 in Fig. 2, 72 in Fig. 3), the remote cite including a routing switcher 74 which serves as a processor for controlling switching among broadcast signals and media segments (commercials) being played by the player units, element 56 further used to control segment insertion according to the control signals (the cue and action signals addressed above).

Nemirofsky also discusses insertion in the VBI (col. 8 lines 45-54), thereby meeting claims 2, 27, 47 and 63.

As for claims 3, 28, 48 and 64, it would have been obvious for the prompting by the action signal to involve a time reference since the insertion is dictated by scheduling (which is a function of time).

Regarding claims 4, 29, 49 and 65, it would further have been obvious to provide security measures to prevent unauthorized signal interception or monitoring, such as by including a security code (channel ID being inherent since each channel is dealt with individually).

As for claims 5, 30, 50 and 66, it would further have been obvious to inform the headend that the control signal (as well as any additional signal) was properly received, in order to assure that broadcasting (and media insertion) is carried through. Such is suggested by the inclusion of traffic control computer 24

As for claims 6, 31, 51 and 57, it would have been obvious to prevent unauthorized signal reception/interception by including any suitable measure therefore. Since encryption/decryption is a very well known way of assuring secure communication, it would accordingly have been obvious to include an encryption key for deciphering media segments (as well as the A/V broadcast).

Considering claim 7, the headend at the central cite also includes external communication with various studio devices (e.g. elements 20, 22, 23), each respectively interfacing LAN (Fig. 6). The LAN is coupled directly to control processor i through element e, wherein the various devices can be considered coupled thereto by the intermediate LAN using respective serial interfaces (noting Fig. 6, as well as Fig. 2). An encoded composite signal for satellite communication to the remote cite (encoding first mentioned in col. 4 line 66), as discussed above. Logging would have been obvious to include for the clear purpose of monitoring and recording progress and achievement.

As for claim 8, a first controller 26 is located at the central cite for remotely controlling and communicating with the central insertion control unit; and the remote cite has a second

controller 70 for controlling and communicating with the with the remote insertion unit. The communication between the first controller 24 and the central insertion controller is done through the satellite channel.

As for claim 9, both the central and remote cites include media players as noted above, the remote cite including switcher 74 among broadcast signals and media segments (commercials) being played by the player units, 56 used to control segment insertion according to the control signals (the cue and action signals addressed above). The remote receiver would accordingly extract the control signal upon identifying the VBI of the composite A/V broadcast signal. Control processor also controls an A/V switch through switch processor for changing over from the received broadcast signal to the insertion (media) signal retrieved from the storage bank 2. (Although computer interfacing is not explicitly depicted, it would have been obvious to one of ordinary skill in the art that controller communicates with the players and switcher by way of computer-controlled interface). Nemirofsky incorporates a host computer for multiple purposes

Regarding claim 10, a first controller 24 is located at the central cite for remotely controlling and communicating with the central insertion control unit; and the remote cite has a second controller 70 for controlling and communicating with the with the remote insertion unit. The communication between the first controller 24 and the central insertion controller is done satellite, as discussed above.

Considering claims 11, 12, 32, 33, 52, 53, 68 and 69, the insertion of the media data is triggered by the scheduler using the cue/action signal, wherein the insertion would be based on the specific A/V program content as well as the context of the immediate broadcasting time

(commercial insertion typically being based on the type of program and time of broadcast, as corroborated by Nemirofsky in col. 8 lines 42+).

As for claims 13, 34, 54 and 70, it would have been obvious to one of ordinary skill n the art to use viewer profiling to decide what commercials to download, such as by viewer monitoring which would be fed back to the remote cite, thereby maximizing the marketing of the commercial product by catering to the taste of the viewer.

As for claims 14, 35, 55 and 71, the media insertion is determined by the scheduling originating from the central cite.

Concerning claim 15, Nemirofsky various broadcast, schedule, and commercial data (noting again Fig. 6).

As for claim 16, the central insertion controller and the remote insertion controller are connected by satellite, but would have been obvious to use any communications medium,

As for claim 17, Nemirofsky uses digital compression (col. 6 lines 60-66).

As for claims 21-23, the broadcast signal is a television signal that communicated through radio waves in digital form (i.e. by satellite broadcasting).

As for claims 24, 40, 60 and 76, the spare capacity of the broadcast signal is the VBI, used by Nemirofsky

Considering claim 25, it would have been obvious to transmit standard or high definition television so as to accommodate as many viewers as possible with TV formats commensurate with their receivers.

As for claims 38, 58 and 74, Nemirofsky includes a cue signal to indicate which media segment to insert into the broadcast signal, which is prompted by what the skilled artisan can call an action signal, which inserts the media signal at a specific time.

As for claim 41, the headend at the central cite also includes external communication with various studio devices, as discussed above, each respectively interfacing a LAN. The LAN is indirectly coupled to control processor 24, wherein the various devices can be considered coupled thereto by the intermediate LAN using respective serial interfaces as shown.

As for claim 42, control commands are transferred through the LAN (note element f in Fig. 6).

As for claims 43-45, it would have been obvious to use any suitable telecommunications line that would perform adequately, such as ISDN regardless of the aperture size, as long as it works.

As for claim 61, control processor 56 with computer 70 also controls an A/V switch 74 for changing over from the received broadcast signal to the insertion (media) signal retrieved from storage bank 72. Although computer interfacing is not explicitly depicted, it would have been obvious to one of ordinary skill in the art that controller communicates with the players and switcher by way of computer-controlled interface.

As for claim 62, it would have been obvious to ensure synchronization of the A/V data in order to provide proper presentation to the user devices.

Regarding claims 77 and 79, it would have been obvious to use the VBI of any given line per respective channels to allow for dedicated processing (and for recognizing channels individually).

As for claim 78, control commands are transferred through the LAN, as noted earlier.

As for claim 80, schedule slots for media segment insertion are determined by a programming manager, wherein the segments are stored at the remote cite; the central cite organizes and controls the insertion by appending a cue signal into the A/V (TV) signal originating from the central cite; the broadcast television signal with the cue signal is in turn sent to the remote cite, and upon detection of the cue signal, the media segment is inserted into the television signal according to the scheduled time. The media segment is accordingly presented broadcast consumers, and the TV signal is rebroadcast (since it was first broadcast to the remote cite) to the consumers. It would have been obvious to communicate log and performance data to a monitoring center, as discussed above.

9. Claims 20, 39, 59 and 75 are now rejected under 35 U.S.C. 103(a) as being unpatentable over Nemirofsky et al. in view of Martinez, in further view of Richer et al. (also cited in the last Office action).

Regarding claims 20, 39, 59 and 75, it would also have been obvious to apply error minimization or correction measures since data is subject to negative influences as a signal in the transmitting stage. It would therefore have been obvious to use any suitable well known quality encoding process, such as by the process taught by Richer, who also communicates between central and remote cites using data in the VBI, and since Hamming codes are well known error correction codes.

10. The two references cited on the PTOL-892 form correspond to references cited in the parent application.

11. The examiner regrets prolonging prosecution.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor R. Kostak whose telephone number is 703 305-4374. The examiner can normally be reached on Monday - Friday from 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 703 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 308-HELP.

Victor R. Kostak
Primary Examiner
Art Unit 2614

VRK